CLAIMS:

1. Method of manufacturing a window transparent for electrons of an electron beam (E), in particular of an X-ray source, comprising the steps of:

- providing on a surface (11) of a carrier element (1) to which a window foil (2) shall be a fixed a receiving area (13, 16) for receiving a soldering material (3) used for fixing said window foil (2) to said carrier element (1), said carrier element (1) comprising a through hole (12) for the transmission of said electrons (E),
- covering said surface (11) having said receiving area (12) with a soldering material (3) such that substantially only said receiving area (13, 16) is filled with soldering material (3),
- placing said window foil (2) on top of said surface (11) and
- heating said soldering material (3) for fixing said window foil (2) to said surface (11).

2. Method as claimed in claim 1, wherein in said step of covering said surface (11) with said soldering material (3) excessive soldering material is removed so that essentially only said receiving area (13, 16) is filled with soldering material (3).

3. Method as claimed in claim 1, wherein said receiving area comprises one or more grooves (13) around said through hole (12) in said carrier element (1).

4. Method as claimed in claim 3, wherein said grooves (13) have a semi-circular cross-section.

5. Method as claimed in claim 3, wherein said grooves (13) are concentric around said through hole (12).

6. Method as claimed in claim 1, wherein said receiving area is made by ablating said surface of said carrier element so as to obtain a carrier element (1) having an inclined surface (16) with a height decreasing from said through hole (12) to its edge.

7. Method as claimed in claim 1, wherein the edge (13) of the surface (11) of said carrier element (1) facing said through hole (12) is rounded.

8. Method as claimed in claim 1, wherein said receiving area comprises a channel (15) closely surrounding said through hole (12) for preventing soldering material (3) to flow into said through hole (12).

9. Method as claimed in claim 1, wherein said carrier element (1) comprises a top carrier element (101) and a bottom carrier element (102), said receiving area (13, 16) being provided in said top carrier element (101) and said window foil (2) being fixed to said top carrier element (101) before said top carrier element (101) being soldered to said bottom carrier element (102).

10. Window for the transmission of electrons of an electron beam (E), in particular of an X-ray source, comprising:

- a carrier element (1) for carrying a window foil (2), said carrier element (1) comprising a through hole (12) for the transmission of said electrons (E),
- a window foil (2) soldered on a surface (11) of said carrier element (1),

wherein said surface (11) of said carrier element (1) is provided with a receiving area (13, 16) filled with a soldering material (3) used for a fixing said window foil (2) to said carrier element (1).

11. X-ray source having an electron source (42) for emitting an electron beam (E), a target (44) for emitting X-rays upon incidence of said electron beam (E) and a window (41) as claimed in claim 10, said window (41) being located between said electron source (42) and said target (44).

12. X-ray source as claimed in claim 11, wherein said target (44) is a liquid metal target and wherein said window (41) separates the liquid metal of said liquid metal target (44) from a vacuum area (40) comprising said electron source (42).